CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 88-132

NPDES NO. CA0029122

WASTE DISCHARGE REQUIREMENTS FOR:
GWF POWER SYSTEMS, COMPANY, INC.
NICHOLS ROAD (SITE V) POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereafter called the Board) finds that:

1. GWF Power Systems, Company, Inc., Nichols Road (Site V) Power Plant (hereinafter called the discharger), submitted an application dated August 19, 1986 and amended it by letters dated December 17, 1987, April 14, 1988 and April 28, 1988 for a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger will generate 17.2 net megawatts (MW) of electric power from the burning of petroleum coke, a by-product of local crude oil refining operations, supplemented by coal and oil.

3. During a normal water year, the discharger proposes to discharge an annual average of approximately 46,944 gallons per day (gpd) of wastewater containing pollutants into Suisun Bay. During a drought year, the discharger proposes to discharge an annual average of 135,072 gpd of wastewater into Suisun Bay. The wastewater will receive minimum initial dilution of 10:1 and generally much greater dilution.

4. The report of waste discharge describes the proposed waste discharge E-001) as follows:

   a. Waste 001A will consist of an average 2,592 gallons per day (gpd) of boiler blowdown and an average 720 gpd of gland steam condensate. This waste will not receive any treatment prior to discharge.

   b. Waste 001B will consist of an average 720 gpd of demineralizer wastewater. This waste will be neutralized prior to discharge.

   c. Waste 001C will consist of 42,480 gpd of cooling tower blowdown during a normal water year. During a drought year, this waste will consist of 130,608 gpd of cooling tower blowdown. This waste will be dechlorinated prior to dicharge.

   d. Waste 001D will consist of 432 gpd of equipment washwater. This waste will not be treated prior to discharge.

   e. Waste 001E will consist of up to 3.1 mgd of peak stormwater runoff from the plant area. This waste will not be treated prior to

discharge. This waste will be collected in a detention basin, tested and determined to be clean prior to discharge to Suisun Bay through the effluent pipe.

5. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and the State Water Resources Control Board approved it on May 21, 1987. The provisions of this permit are consistent with the revised Basin Plan.

6. The beneficial uses of Suisun Bay, Delta, and contiguous water bodies are:

   a. Water contact recreation
   b. Non-contact water recreation
   c. Wildlife Habitat
   d. Preservation of Rare and Endangered Species
   e. Estuarine Habitat
   f. Fish migration and spawning
   g. Industrial service supply
   h. Navigation
   i. Commercial and Sport Fishing

7. The State Board adopted a revised Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on September 18, 1975. The temperature limitations contained in this order for the cooling tower discharge are in accordance with the Thermal Plan.

8. The cooling system blowdown water is classified as elevated temperature waste in the Thermal Plan because there is no direct discharge of cooling water other than blowdown and demineralizer wastewater to Suisun Bay; the main cooling system consists of cooling towers; and less than five percent of the waste heat added to the evaporative cooling system is dissipated through blowdown.

9. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.

10. Effluent limitation guidelines have been promulgated by the U.S. Environmental Protection Agency (EPA) for the Steam Electric Power Generating Point Source Category, 40 CFR Part 423.15, New Source Performance Standards. Effluent limitations of this order are based on these guidelines, the Basin Plan, other state plans and policies, and best professional judgement.

11. Under 40 CFR 122.44, "Establishing Limitations, Standards, and Other Permit Conditions," NPDES permits should also include toxic pollutant limitations if the discharger uses or manufactures a toxic pollutant as an intermediate or final product or byproduct. This permit may be modified prior to the expiration date, pursuant to 40 CFR 122.62 and 124.5, to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge.

12. The Bay Area Air Quality Management District has adopted a final

Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), and the State Guidelines. This final EIR states that this project would have insignificant water quality impacts as the waste would receive a minimum of 10:1 dilution and generally much greater dilution. In addition, this EIR states that if any impacts are detected through monitoring of the effluent, this Regional Board will take appropriate action.

13. The Board has reviewed the EIR and these waste discharge requirements will mitigate or avoid any impacts on water quality.

14. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of all conservative toxic and deleterious substances above those levels which can be achieved by a program acceptable to the Board is prohibited.

2. The discharge of polychlorinated biphenyl compounds is prohibited.

B. Effluent Limitations

1. The discharge of Waste E-001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Averages 30-day	Averages 7-day	Daily Maximum
Total Suspended Solids	mg/l	30	45	-
Oil & Grease	mg/l	10	-	20
Settleable Matter	ml/l-hr	0.1	-	0.2

2. The discharge of Waste E-001 containing heavy metals in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Arsenic	ug/l	200
Cadmium	ug/l	30
Chromium (VI)[1]	ug/l	110
Copper	ug/l	200
Lead	ug/l	56
Mercury	ug/l	1
Nickle	ug/l	71
Silver	ug/l	23
Zinc	ug/l	580

Note:

1 Dischargers may at their option meet this limit as total chromium.

3. The pH of the discharge shall not exceed 9 nor be less than 6.

4. The maximum temperature of the discharge shall not exceed the ambient receiving water temperature by more than 20° F nor shall it exceed 86°F.

5. The waste shall meet the following limit of toxicity:

The survival of three-spine stickleback and rainbow trout (or fathead minnow) in a 96-hour flow-through bioassay of the effluent as discharged shall be a 90 percentile value of not less than 50% survival.

6. The residual chlorine of the waste shall not exceed 0.0 mg/l.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the state at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of turbidity or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved oxygen: 7.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

b. Dissolved sulfide: 0.1 mg/l maximum.

c. pH: The ph shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

d. Un-ionized Ammonia (as N): 0.025 mg/l Annual Median
0.16 mg/l Maximum at any time

3. The discharge shall not increase the normal ambient temperature of the receiving water more than 4° F .

4. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. Neither the treatment nor the discharge of pollutants shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.

2. The discharger shall comply with the limitations, prohibitions, and other provisions of this order immediately upon its adoption by the Board.

3. The discharger shall perform effluent flow-through bioassays to determine compliance with effluent limitation B.5 immediately after beginning operating the power plant. The discharger shall notify the Board of the results and shall not discharge until compliance with this limitation is achieved.

4. The discharger shall comply with the attached Self-Monitoring Program as adopted by the Board.

5. The discharger shall develop and submit a Best Management Practices (BMP) program to the Board by October 1, 1988. The BMP program shall be consistent with the EPA regulations 40 CFR 125, Subpart K and the general guidance contained in the "NPDES Best Management Guidance Document", EPA Report No. 600/9-79-045, December 1979 (revised June 1981). A BMP program acceptable to the Executive Officer shall be implemented by September 1, 1989.

6. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986.

7. The discharger shall review and update by November 1 each year its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

8. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41K).

9. Pursuant to Environmental Protection Agency regulations [40CFR122.42(a)] the discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).

10. This permit shall be modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(c), and (d), 303, 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

    (a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or,

    (b) Controls any pollutant not limited in the permit.

    The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicabble.

11. This Order expires on August 17, 1993 and the discharger must file a

Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

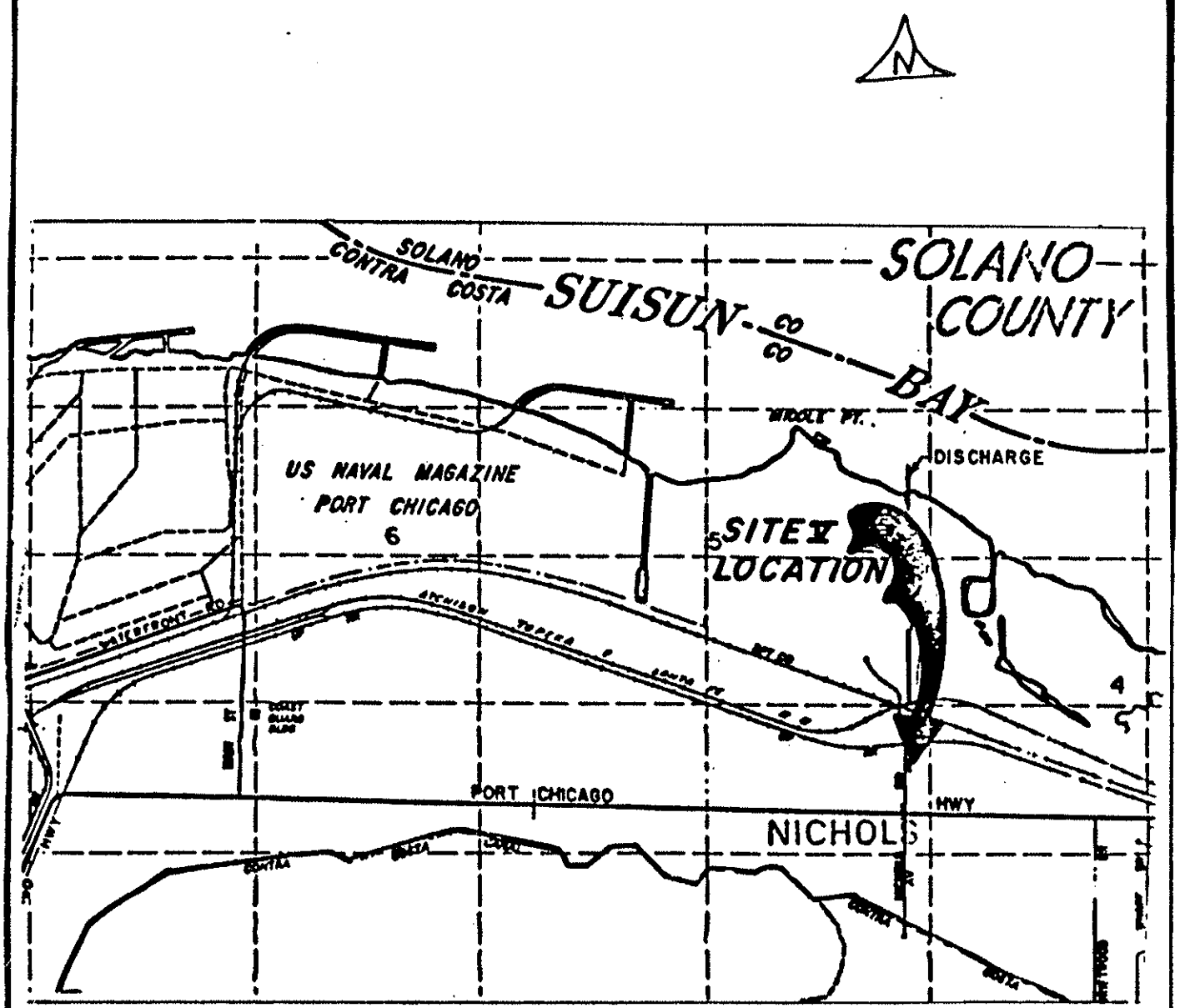
12. This Order shall serve as a National Pollutant Discharge Elmination pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing, provided the Regional Administration, U.S. Environmental Protection Agency, has no objections.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 17, 1988.

STEVEN R. RITCHIE
Executive Officer

Attachments:

Location Map
Standard Provisions and Reporting Requirements dated December 1986
Resolution No. 74-10
Self-Monitoring Program



GWF POWER SYSTEMS SITE V
VICINITY MAP

EPTIEN-CRONIN-COOPER, Inc. CONSULTING ENGINEERS MARTINEZ

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

GWF POWER SYSTEMS COMPANY, INC
NICHOLS ROAD (SITE V) POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY

NPDES NO. CA0029122
ORDER No. 88-132

CONSISTS OF

PART A (dated December 1986)

AND

PART B

SELF-MONITORING PROGRAM

PART B

DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSIS & OBSERVATIONS

I. Sampling Station Location/Description

A. EFFLUENT

Station	Description
E-001	At any point in the outfall from the plant facilities between the point of discharge to Suisun Bay and the point at which all wastes (including waste 001E) tributary to that outfall are present.

B. RECEIVING WATERS

Stations	Description
C-1	300 feet upstream from the point of discharge
C-2	300 feet downstream from the point of discharge

II. Schedule of Sampling, Analysis & Observations

A. The schedule of sampling and analysis shall be that given in Table 1 (attached).

B. Sample collection, storage, and analysis shall be performed according to the latest 40 CFR Part 136 or other methods approved and specified by the Board

III. MISCELLANEOUS REPORTING

A. In addition to the maximum, minimum, and average effluent pH values, the following information about effluent pH violations shall be reported each month (report separately for over and under the pH limitations):

a. Percent of time effluent pH was outside the limitations.

b. Number of events when pH was outside the limitations.

c. Total (cumulative) hours and minutes that pH was outside the limitations.

d. Duration of the longest continuous period of such violation.

Note that strip charts of the effluent pH record must be retained with other laboratory records, and made available for inspection by Board staff.

B. The discharger shall retain and submit (when required) the following information concerning the monitoring program for organic and metallic pollutants.

a. Description of sample stations, times, and procedures.

b. Description of sample containers, storage, and holding time prior to analysis.

c. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions may be ordered by the Executive Officer or Regional Board.

STEVEN R. RITCHIE
Executive Officer

Effective Date 8/18/88

Attachments:
Table 1

TABLE I

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-001	Flow	gpd	continuous	continuous
	Oil & Grease	mg/l kg/day	grab	weekly (1)
	TSS	mg/l	24-hour-composite	weekly
	pH	pH units	continuous	continuous
	settleable solids	ml/l-hr	grab	weekly
	Temperature	^{o} F	continuous	continuous
	TDS	mg/l	grab	weekly
	BOD	mg/l	24-hour composite	monthly
	TOC	mg/l	24-hour composite	monthly
	COD	mg/l	24-hour composite	monthly
	Ammonia (as N)	mg/l	24-hour composite	monthly
	Arsenic	ug/l kg/day	24-hour composite	weekly
	Cadmium	ug/l kg/day	24-hour composite	weekly
	Chromium,	ug/l kg/day	24-hour composite	weekly
	Copper	ug/l kg/day	24-hour composite	weekly

Station	Constituent	Unit	Type of Sample	Frequency of Analysis
E-001	Silver	ug/l kg/day	24-hour composite	weekly
	Lead	ug/l kg/day	24-hour composite	weekly
	Mercury	ug/l kg/day	24-hour composite	weekly
	Nickel	ug/l kg/day	24-hour composite	weekly
	Zinc	ug/l kg/day	24-hour composite	weekly
	Selenium (2)	ug/l kg/day	24-hour composite	weekly
	Toxicity	% survival	(3)	biweekly
	Volatile (4) Organics	ug/l	24-hour composite	yearly
	Acid/Base/Neutral Organics (5)	ug/l	24-hour composite	yearly
	All Applicable Standard Observations			monthly
C-1 and C-2	Turbidity	Jackson Turbidity Units		biweekly
	Dissolved Oxygen	mg/l & % Saturation		biweekly
	pH	units		biweekly
	Temperature	^{o} F		biweekly

LEGEND

FREQUENCY OF ANALYSIS

Weekly= once each week
Monthly= once each month
Yearly= once each year
Biweekly= once every two weeks

FOOTNOTE

1) Oil & Grease sampling shall consist of 3 grab samples taken at 2-hour intervals during the sampling day, with each grab being collected in a glass container. The entire volume of each sample shall be composited prior to analysis. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.

2) Selenium must be analyzed only by the atomic absorption, gaseous hydride procedure (EPA Method No. 270.3/Standard Method No. 303E).

3) The bioassay test shall be a flow-through test using two test fish species (stickleback, and rainbow trout or fathead minnow).

4) Volatile Organic Toxic Pollutants shall be analyzed using EPA Method 624 of the July 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057.

5) Acid and Base/Neutral Extractable Organic Toxic Pollutants shall be analyzed using EPA Method 625 of the July 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057.